

Panel set to decide output at Vt. Yankee Critics seek delay, independent look

By Bryan Bender, Globe Staff | November 30, 2005

WASHINGTON -- A federal agency is poised to rule on a proposal to increase the output of Vermont Yankee, one of New England's oldest nuclear power plants, but some specialists are raising safety concerns and are urging regulators to put off a decision until an independent review can be completed.

A key advisory panel of the US Nuclear Regulatory Commission began hearing two days of testimony yesterday -- much of it closed to the public -- from Entergy Corp. on its plan to "uprate" the 33-year-old plant's wattage by 20 percent, the largest capacity increase allowed by the federal government. The panel plans to make a recommendation to the full nuclear commission Dec. 8.

Federal and company officials maintain that the plant, which is in Vernon, Vt., near the New Hampshire and Massachusetts borders, meets industry safeguards and that its generating capacity can be safely increased.

After a preliminary evaluation, the NRC concluded this month that "Vermont Yankee can safely operate at the uprated level, with certain conditions."

But some nuclear power specialists and local officials are not convinced.

Citing recent problems, including cracks in key equipment and a June 2004 fire attributed to overdue maintenance -- they say the plant needs closer inspection to determine whether an upgrade would be safe.

"We have serious concerns," said Joram Hopenfeld, a mechanical engineer and an 18-year veteran of the Nuclear Regulatory Commission who is now working with local activists.

"An added 20 percent of output will produce vibrations that were not there before. You have to assure the public it is not going to fall part."

The Vermont Yankee plant went on line in November 1972, and now provides for one-third of Vermont's electricity use and a smaller share of other New England states' power.

Entergy, a corporation based in New Orleans, also operates the Pilgrim nuclear power plant in Plymouth, Mass., and bought Vermont Yankee in 2002 for \$180 million.

In September 2003, Entergy asked the NRC for permission to increase the plant's output from 540 megawatts to 650 megawatts of electricity.

In early 2004, the Vermont Public Service Board, the state's oversight body, said upgrading Vermont Yankee was in the best interest of the growing energy needs of Vermont's residents.

Still, some Vermont officials, including US Senator James M. Jeffords, expressed concern that the NRC and Entergy have not answered lingering questions about equipment fatigue. Inspectors have discovered cracks in steam dryers, a key device that removes water vapor before pressurized steam is fed into the turbines to create electricity.

If the plant is upgraded, the steam dryers and turbines must handle the vapor at even higher pressures.

At yesterday's hearing, Entergy officials told the NRC panel that they cannot predict exactly how the aging plant will react to the increased stress, according to the Vermont Guardian newspaper.

Hopenfeld, who attended yesterday's hearing at the commission's headquarters in Rockville, Md., said that a similarly designed facility, the Quad Cities plant in southeastern Illinois, had similar cracks and that fragments from the dryers "wound up on top of the [nuclear] reactor core." In any plant, "if those pieces start flying around, they could go into places you don't want," he said.

At another plant, the Dresden II near Chicago, inspectors found new fissures earlier this month in a reinforced steam dryer. Days before, Entergy officials reported that a routine inspection of Vermont Yankee had found 40 hairline cracks in a steam dryer that had been reinforced in 2004.

"None of them need to be repaired," said a Vermont Yankee spokesman, Rob Williams. "They were analyzed by NRC, [manufacturer] General Electric, and Entergy, and they are determined to be acceptable because they are not safety related and they are not structurally significant."

The company said it believes the cracks occurred in the plant's early years and were discovered more recently because monitoring equipment has become more sophisticated. They said nine similar plants have been updated nationwide without significant problems.

Entergy insists other recent safety concerns have been addressed. The fire last spring followed a short in an electrical transformer overdue for maintenance, Williams said; the blaze was not near the reactor, and the plant was not shut down. "We could have done better preventative maintenance," Williams said.

Another concern: whether Vermont Yankee can respond quickly enough to a meltdown. In 2004, after a drill, the federal Atomic Safety and Licensing Board supported the Public Service Board's contention that Entergy did not meet mandated times for a remote shutdown of the reactor.

Williams said that problem, too, has been corrected. "We have since verified that we can do this, and the board ruled that it did not warrant" further action, he said.

"Safety is our highest priority and has been since the plant first opened here," he added. "We have operated this plant very conservatively and pursued the update application with equal conservatism.

"We have assured ourselves that the plant can operate within the NRC regulations, and we would not move forward without assurance that there was adequate safety," Williams said.

Higher fossil-fuel prices and growing concerns about global warming have fueled an increase in proposals to upgrade nuclear power plants and government applications for new ones.

But specialists in the industry acknowledge that the rush to feed a growing energy appetite has eclipsed safety as a key issue.

"Safety concerns, once a primary obstacle to the further development of the industry, are being overshadowed by the need for reliable, clean, and cost-effective electric power," according to a report published Monday by Research and Markets, an Irish firm.

As a result, some community activists and nuclear specialists are pushing for a more thorough assessment of Vermont Yankee before the uprate is approved -- and before a separate decision is issued on whether to renew Entergy's operating license for 20 years when it runs out in 2012.

A petition being drafted by concerned citizens calls for a delay in the approval process. Such a delay, they said, should stay in place "until an adequate independent safety report is provided and the results are evaluated and subjected to public scrutiny." The recent inspection revealing new cracks "emphasizes the need for a thorough analysis," the petition added.